

**IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA**

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|------------------------------------|---|--------------------------------------|
| DENTSPLY INTERNATIONAL INC. | : | CIVIL ACTION NO. 1:04-CV-0348 |
| and DENTSPLY RESEARCH & | : | |
| DEVELOPMENT CORP., | : | (Judge Conner) |
| | : | |
| Plaintiffs | : | |
| | : | |
| v. | : | |
| | : | |
| HU-FRIEDY MFG. CO., INC., | : | |
| | : | |
| Defendant | : | |

MEMORANDUM

Presently before the court for judgment are the patent infringement claims of plaintiffs, Dentsply International Inc. and Dentsply Research and Development Corp. (collectively “Dentsply”), against defendant, Hu-Friedy Manufacturing Company, Inc. (“Hu-Friedy”). The patent at issue describes a method of making a “tip” that, when attached to a “connecting body” and a source device, vibrates and expels a small stream of liquid to facilitate dental cleaning. Products manufactured and sold by Hu-Friedy achieve a similar result but consist of an integrated “tip region” that is neither separate nor severable from the “connecting body.” The parties disagree over whether the respective designs are “equivalent” for purposes of a finding of infringement.

A bench trial was held in May 2005, during which the parties presented substantial documentation and testimony relating to the methods of manufacture of the competing designs. The action is now ripe for judgment under Federal Rule of Civil Procedure 52. Based on the findings that follow, the court concludes that

the Hu-Friedy products do not infringe on the Dentsply patent. Accordingly, judgment will be entered in favor of Hu-Friedy.¹

I. Findings of Facts

1. Dentsply and Hu-Friedy are corporations engaged in the manufacture, distribution, marketing, and sale of products for use in the field of dentistry. (Doc. 121 at 81; Doc. 125 at 14, 17-19; Doc. 129, Ex. P46; Doc. 149 ¶¶ 2, 5-6, 8-9; Doc. 150 ¶ 2; Doc. 154 ¶¶ 2, 5-6, 8-9; Doc. 157 ¶ 2).

2. Among the products manufactured and sold by Dentsply and Hu-Friedy are “ultrasonic inserts” for use in the cleaning of teeth. (Doc. 121 at 66, 81-82; Doc. 125 at 12-13, 22-23, 48-50; Doc. 129, Parker Dep. at 53; Doc. 129, Tipton Dep. at 16-18; Doc. 130, Exs. D47-L, D47-M, D54-A, D54-B; Doc. 149 ¶¶ 2, 5-6, 30; Doc. 150 ¶¶ 3-4; Doc. 154 ¶¶ 2, 5-6, 30; Doc. 157 ¶¶ 3-4).

3. During use, an insert is connected to a handpiece and an energy source device that, when activated, causes a “magnetostrictive element” within the insert to vibrate at ultrasonic frequency. (Doc. 121 at 82-92; Doc. 125 at 12-13, 72-74; Doc. 126 at 92-94; Doc. 129, Tipton Dep. at 150; Doc. 149 ¶¶ 13-14, 32; Doc. 150 ¶¶ 4-6; Doc. 154 ¶¶ 13-14, 32; Doc. 157 ¶¶ 4-6).

4. The vibrations are carried through the “connecting body” of the insert to the “tip” or “tip region” of the insert, the end of which may then be

¹ All counsel of record are commended for their professionalism and thoroughness in presenting the factual and legal issues in this case both at trial and in their submissions to the court.

applied to the surface of a tooth to remove plaque and calculus above and below the gum line. (Doc. 121 at 82-92; Doc. 125 at 12-13, 72-74; Doc. 126 at 92-94; Doc. 129, Tipton Dep. at 150; Doc. 149 ¶¶ 13-14, 16, 32; Doc. 150 ¶¶ 4-6; Doc. 154 ¶¶ 13-14, 16, 32; Doc. 157 ¶¶ 4-6).

5. Inserts often include a water delivery system in which water is directed around or through the insert to cool both the insert and the tooth surface and to wash away debris during cleaning. (Doc. 121 at 62-66, 86-88; Doc. 125 at 12-13; Doc. 129, Ex. P-1; Doc. 129, Neiner Dep. at 9; Doc. 129, Parker Dep. at 53; Doc. 129, Tipton Dep. at 16-18; Doc. 130, Exs. D47-L, D47-M, D54-A, D54-B; Doc. 130, Exs. D207-D212; Doc. 149 ¶¶ 2, 7, 9, 20; Doc. 150 ¶ 7; Doc. 154 ¶¶ 2, 7, 9, 20; Doc. 157 ¶ 7).

6. Dentsply is the exclusive licensee of United States Patent No. 6,494,714 (“the Dentsply patent”), issued December 17, 2002, which claims a “Method of Making a Tool Tip and Tool Tip” for use in an ultrasonic insert. (Doc. 125 at 18-19; Doc. 129, Ex. P-1; Doc. 130, Exs. D47-L, D47-M, D54-A, D54-B; Doc. 149 ¶ 6; Doc. 150 ¶ 8; Doc. 154 ¶ 6; Doc. 157 ¶ 8).

7. The Dentsply patent claims a method of making a “tip” with an internal water delivery system. (Doc. 125 at 12-13; Doc. 129, Ex. P-1; Doc. 130, Exs. D47-L, D47-M, D54-A, D54-B; Doc. 149 ¶¶ 2, 7, 48; Doc. 154 ¶¶ 2, 7, 48).

8. The “tip” of the Dentsply patent consists of an elongated metal shaft with a tapered end. (Doc. 59 at 5-6; Doc. 129, Ex. P-1; see also Doc. 121 at 97; Doc. 125 at 73; Doc. 149 ¶ 15; Doc. 154 ¶ 15).

9. The “tip” of the Dentsply patent is formed by bending the shaft at a mid-point, drilling a fluid passageway through the shaft to form a fluid-inlet orifice at the non-tapered end and a fluid-outlet orifice at the bend, and bending the shaft a second time at the mid-point to form a bend at an opposing angle from the centerline. (Doc. 129, Ex. P-1; see also Doc. 125 at 73).

10. The “tip” of the Dentsply patent may then be attached to a “connecting body” by “threads, press fit, soldering, brazing[,] or welding.” (Doc. 129, Ex. P-1; see also Doc. 125 at 73; Doc. 149 ¶ 15; Doc. 154 ¶ 15).

11. The “connecting body” transmits fluid into the fluid-inlet orifice and ultrasonic vibrations to the “tip.” (Doc. 129, Ex. P-1; see also Doc. 125 at 73; Doc. 149 ¶¶ 13-14, 16; Doc. 154 ¶¶ 13-14, 16).

12. The “tip” of the Dentsply patent is formed independently of, and represents a component separate from, the “connecting body.” (Doc. 59 at 5-6; Doc. 129, Ex. P-1; see also Doc. 125 at 73; Doc. 149 ¶ 15; Doc. 154 ¶ 15).

13. Hu-Friedy manufactures, markets, and sells ultrasonic inserts that are alleged to infringe on the method of making a “tip” claimed in the Dentsply patent. (Doc. 92; Doc. 125 at 75, 82; Doc. 126 at 61-62; Doc. 149 ¶¶ 1-4, 9, 30, 47, 49; Doc. 150 ¶¶ 9-10; Doc. 154 ¶¶ 1-4, 9, 30, 47, 49; Doc. 157 ¶¶ 9-10).

14. The Hu-Friedy design includes a method of making a “tip region” with an internal water delivery system. (Doc. 121 at 66; Doc. 129, Exs. P64-P71; Doc. 129, Tipton Dep. at 16-18, 23-30; Doc. 129, Parker Dep. at 53; Doc. 130, Exs. D207-D212; Doc. 149 ¶ 9; Doc. 154 ¶ 9).

15. The “tip region” of the Hu-Friedy design represents a portion of an integrated “connecting body” that is an elongated metal shaft with a tapered end. (Doc. 121 at 3-9, 65-66; Doc. 122 at 3, 20-21, 26-29; Doc. 126 at 92-94, 113-30; Doc. 127 at 29; Doc. 129, Exs. P64-P71; Doc. 129, Tipton Dep. at 23-30, 65-66, 89, 101-03, 150; Doc. 130, Exs. D47-L, D47-M, D54-A, D54-B; Doc. 149 ¶¶ 25, 32-33, 35-46; Doc. 150 ¶¶ 109-111, 124, 126; Doc. 154 ¶¶ 25, 32-33, 35-46; Doc. 157 ¶¶ 109-111, 124, 126).

16. The “tip region” of the Hu-Friedy design is formed by bending the shaft at a mid-point, drilling a fluid-inlet slot into the side of the “connecting body” at the end of the portion that is an elongated metal shaft with a tapered end, drilling (through electric discharge machining) a fluid passageway from the bend to the fluid-inlet slot to form a fluid-inlet orifice within the slot and a fluid-outlet orifice at the bend, and bending the shaft a second time at the mid-point to form a bend at an opposing angle from the centerline. (Doc. 59 at 7-8; Doc. 121 at 65-66; Doc. 122 at 3-4, 20-29, 74, 77-79; Doc. 126 at 113-36; Doc. 129, Exs. P64-P71; Doc. 129, Tipton Dep. at 23-35, 65-66, 89; Doc. 130, Exs. D47-L, D47-M, D54-A, D54-B, D59, D208, D210, D211; Doc. 149 ¶¶ 25, 32, 35-46; Doc. 150 ¶¶ 112-123; Doc. 154 ¶¶ 25, 32, 35-46; Doc. 157 ¶¶ 112-123).

17. The “connecting body” of the Hu-Friedy design transmits fluid through the fluid-inlet slot into the fluid-inlet orifice and ultrasonic vibrations to the metal shaft of the “tip region.” (Doc. 121 at 65-66, 86-87; Doc. 122 at 20-29; Doc. 126 at 92-94, 113-27; Doc. 129, Exs. P64-P71; Doc. 129, Tipton Dep. at 23-32, 65-66, 89,

118-19, 150; Doc. 130, Exs. D47-L, D47-M, D54-A, D54-B; Doc. 149 ¶¶ 25, 32, 35-46; Doc. 150 ¶¶ 5-6; Doc. 154 ¶¶ 25, 32, 35-46; Doc. 157 ¶¶ 5-6).

18. The “tip region” of the Hu-Friedy design is formed concurrently with, and represents an integrated part of, the “connecting body.” (Doc. 121 at 3-9, 65-66, 86-87; Doc. 122 at 3, 21-29; Doc. 126 at 92-94, 113-30; Doc. 129, Exs. P64-P71; Doc. 129, Tipton Dep. at 23-30, 65-66, 89, 150; Doc. 130, Exs. D47-L, D47-M, D54-A, D54-B; Doc. 149 ¶¶ 25, 32, 35-46; Doc. 150 ¶¶ 109-111, 124, 126; Doc. 154 ¶¶ 25, 32, 35-46; Doc. 157 ¶¶ 109-111, 124, 126).

19. The method of making a “tip” claimed in the Dentsply patent, involving the drilling of a fluid passageway through a separate elongated metal shaft that may then be attached to a “connecting body,” offers manufacturing and functional benefits over the method of making a “tip region” of the Hu-Friedy design, involving the drilling of a fluid passageway through a “tip region” of an integrated “connecting body.” (Doc. 121 at 19-38, 66-69; Doc. 122 at 15-16, 24-25, 74-82, 96-98; Doc. 125 at 80-81; Doc. 129, Exs. P1, P64-P71; Doc. 129, Tipton Dep. at 30-35, 118-19; Doc. 130, Ex. D53-F; Doc. 130, Ex. D59 §§ 30, 32; Doc. 130, Copeland Dep. at 47-53, 107-08).

20. The method of making a “tip” claimed in the Dentsply patent allows for the passageway to be drilled from either the bend or the non-tapered end of the elongated metal shaft, whereas the method of making a “tip region” of the Hu-Friedy design requires the passageway to be drilled from the bend of the elongated metal shaft to the pre-drilled fluid-inlet slot. (Doc. 121 at 19-38; Doc. 122 at 74-82, 96;

Doc. 125 at 80-81; Doc. 129, Tipton Dep. at 30-31; Doc. 130, Ex. D59 § 30; Doc. 130, Copeland Dep. at 47-52, 107-08).

21. The method of making a “tip” claimed in the Dentsply patent allows for several alternative methods of drilling, including rotating abrasion or mechanical boring, whereas the method of making a “tip region” of the Hu-Friedy design generally requires the use of electric discharge machining. (Doc. 121 at 19-38; Doc. 122 at 25, 74-82, 96; Doc. 125 at 80-81; Doc. 129, Tipton Dep. at 30-31; Doc. 130, Ex. D59 § 30; Doc. 130, Copeland Dep. at 47-48, 107-08).

22. The method of making a “tip” claimed in the Dentsply patent allows for variations in the location of the fluid-outlet orifice of the passageway, whereas the method of making a “tip region” of the Hu-Friedy design requires the passageway to intersect precisely with the pre-drilled fluid-inlet slot. (Doc. 121 at 66-69; Doc. 122 at 24-25, 98; Doc. 129, Exs. P1, P64-P71; Doc. 129, Tipton Dep. at 30-35, 118-19; Doc. 130, Ex. D59 §§ 30, 32).

23. The method of making a “tip” claimed in the Dentsply patent allows for retention and re-use of the separate connecting body if a manufacturing error is made in the bending process or drilling of the fluid passageway, whereas the method of making a “tip region” of the Hu-Friedy design requires the entire integrated “connecting body” to be discarded if a manufacturing error is made in the bending process or drilling of the fluid passageway. (Doc. 122 at 15-16, 24-25, 80-81; Doc. 129, Exs. P1, P64-P71; Doc. 130, Ex. D53-F; Doc. 130, Ex. D59 § 30; Doc. 130, Copeland Dep. at 53).

24. The method of making a “tip” claimed in the Dentsply patent allows for the removal and replacement of the “tip” of an insert after manufacture, whereas the method of making a “tip region” of the Hu-Friedy design requires replacement of the entire integrated “connecting body.” (Doc. 122 at 24-25; Doc. 129, Exs. P1, P64-P71; Doc. 130, Ex. D59 § 30; Doc. 130, Copeland Dep. at 53).

25. The method of making a “tip region” of the Hu-Friedy design, involving the drilling of a fluid passageway through a “tip region” of an integrated “connecting body,” offers manufacturing and functional benefits over the method of making a “tip” claimed in the Dentsply patent, involving the drilling of a fluid passageway through a separate elongated metal shaft that may then be attached to a “connecting body.” (Doc. 122 at 91-97; Doc. 126 at 91-93; Doc. 127 at 68-71, 81-86; Doc. 130, Ex. 59 § 30; Doc. 130, Copeland Dep. at 50-53; Doc. 130, Peterson Dep. at 26-27).

26. The method of making a “tip region” of the Hu-Friedy design allows for the manufacturing process to be substantially complete following the drilling of the passageway and the second bend in the elongated metal shaft, whereas the method of making a “tip” claimed in the Dentsply patent requires the additional step of attaching the separate “tip” to the “connecting body.” (Doc. 122 at 91-97; Doc. 126 at 91-93; Doc. 127 at 68-71, 81-86; Doc. 130, Ex. 59 § 30; Doc. 130, Copeland Dep. at 50-53; Doc. 130, Peterson Dep. at 26-27).

27. The method of making a “tip region” of the Hu-Friedy design allows for a consistent and efficient transfer of vibrations from “magnetostrictive element”

to the “tip region” of the integrated “connecting body,” whereas the method of making a “tip” claimed in the Dentsply patent, attached by threading or brazing to a separate “connecting body,” may dampen or disrupt the transfer of vibrations from the “magnetostrictive element” to the “tip.” (Doc. 122 at 91-97; Doc. 126 at 91-93; Doc. 127 at 68-71, 81-86; Doc. 130, Ex. 59 § 30).

28. The element of the method of making a “tip” claimed in the Dentsply patent, requiring the manufacture of a separate “tip” and “connecting body” that are later attached, is essential to the method claimed in the Dentsply patent. (Doc. 59 at 5-6; Doc. 129, Ex. P1; see also Doc. 121 at 19-38, 66-69; Doc. 122 at 15-16, 24-25, 74-82, 96-98; Doc. 125 at 73, 80-81; Doc. 130, Ex. D59 §§ 30, 32; Doc. 130, Copeland Dep. at 47-53, 107-08; Doc. 149 ¶ 15; Doc. 154 ¶ 15).

29. The element of the method of making a “tip” claimed in the Dentsply patent, requiring the manufacture of a separate “tip” and “connecting body” that are later attached, is not explicitly or implicitly included within the method of making a “tip region” of the Hu-Friedy design. (Doc. 121 at 3-9, 19-38, 65-69, 86-87; Doc. 122 at 3, 15-16, 21-29, 74-82, 96-98; Doc. 126 at 92-94, 113-30; Doc. 129, Exs. P64-P71; Doc. 129, Tipton Dep. at 23-30, 65-66, 89, 150; Doc. 130, Exs. D47-L, D47-M, D54-A, D54-B; Doc. 130, Ex. D59 §§ 30, 32; Doc. 130, Copeland Dep. at 47-53, 107-08; Doc. 149 ¶¶ 3, 25, 32, 35-46; Doc. 150 ¶¶ 109-111, 124, 126; Doc. 154 ¶¶ 3, 25, 32, 35-46; Doc. 157 ¶¶ 109-111, 124, 126).

30. The method of making a “tip” claimed in the Dentsply patent and the method of making a “tip region” of the Hu-Friedy design do not perform

substantially the same function in substantially the same way to obtain substantially the same result. (Doc. 121 at 19-38, 66-69; Doc. 122 at 15-16, 24-25, 74-82, 91-98; Doc. 125 at 80-81; Doc. 126 at 91-93; Doc. 127 at 68-71, 81-86; Doc. 129, Exs. P1, P64-P71; Doc. 129, Tipton Dep. at 30-35, 118-19; Doc. 130, Ex. D53-F; Doc. 130, Ex. D59 §§ 30, 32; Doc. 130, Copeland Dep. at 47-53, 107-08; Doc. 130, Peterson Dep. at 26-27).

31. The method of making a “tip” claimed in the Dentsply patent and the method of making a “tip region” of the Hu-Friedy design are not equivalent. (Doc. 121 at 19-38, 66-69; Doc. 122 at 15-16, 24-25, 74-82, 91-98; Doc. 125 at 80-81; Doc. 126 at 91-93; Doc. 127 at 68-71, 81-86; Doc. 129, Exs. P1, P64-P71; Doc. 129, Tipton Dep. at 30-35, 118-19; Doc. 130, Ex. D53-F; Doc. 130, Ex. D59 §§ 30, 32; Doc. 130, Copeland Dep. at 47-53, 107-08; Doc. 130, Peterson Dep. at 26-27).

II. Discussion

It is conceded that the method of making a “tip region” of the Hu-Friedy device does not literally infringe on the method of making a “tip” claimed in the Dentsply patent, as the latter term has been construed in this case.² Nevertheless, even if an accused method does not fall within the express language of a patent claim, infringement may still be found under the “doctrine of equivalents.”

Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 29, 33-36 (1997). This doctrine contemplates coverage of designs not literally outlined in the claim

² (Doc. 149 ¶ 3; Doc. 154 ¶ 3).

language but implicitly encompassed within the patent's scope. See id. (citing Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 608-09 (1950)).

Equivalence may be found when the "claimed limitation and the accused [method] perform substantially the same function in substantially the same way to obtain substantially the same result." V-Formation, Inc. v. Benetton Group SpA, 401 F.3d 1307, 1313 (Fed. Cir. 2005); see also Warner-Jenkinson, 520 U.S. at 33-36; Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co., 285 F.3d 1046, 1052-55 (Fed. Cir. 2002) (en banc).

Application of the doctrine is necessarily restricted. It cannot be "used to erase 'meaningful structural and functional limitations of the claim on which the public is entitled to rely in avoiding infringement.'" Conopco, Inc. v. May Dep't Stores Co., 46 F.3d 1556, 1562 (Fed. Cir. 1994) (quoting Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 935 (Fed. Cir. 1987) (en banc)). Each essential element of the claim must appear, in some form, in the accused method. See Tronzo v. Biomet, Inc., 156 F.3d 1154, 1160 (Fed. Cir. 1998) (citing Warner-Jenkinson, 520 U.S. at 29). If a finding of equivalence would effectively eliminate a "meaningful" limitation of the patented design, the doctrine cannot apply.³ See Conopco, 46 F.3d at 1562; see also Warner-Jenkinson, 520 U.S. at 29, 33-36.

³ See also Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1424 (Fed. Cir. 1997) ("A claim element is equivalently present in an accused [design] if only 'insubstantial differences' distinguish the missing claim element from the corresponding aspects of the accused [design].") (quoting Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 1517-18 (Fed. Cir. 1995) (en banc), rev'd on other grounds, 520 U.S. 17 (1997)).

The court finds, based on the evidence presented at trial, that a finding of equivalence between the Dentsply and Hu-Friedy designs would eliminate an essential limitation of the Dentsply patent. The “tip” of the Dentsply patent has been defined as a “separate elongated attachment to be fitted to the connecting body.” (Doc. 59 at 5-6). The patent expressly contemplates that the tip will be manufactured independently from, and later attached to, a connecting body. Thus, an element of the claimed method is that the “tip” must be a component separate from the “connecting body.” See Tronzo, 156 F.3d at 1160.

This element is “meaningful” to the patented design. The “separate” limitation of the patent offers obvious benefits in terms of manufacturing expediency. The claims of the patent instruct that a fluid passageway should be drilled through the elongated metal shaft, with an outlet in the end of the shaft that will attach to the connecting body. The simplest means to produce this passageway is to drill through the tip while it is separated from the connecting body, and then to attach the tip to the body itself. Other modes of manufacture would be significantly more difficult, requiring more precise drilling techniques and specialized methods such as electric discharge machining. And, if an error is made in manufacturing process prescribed by the Dentsply patent, the tip itself may simply be discarded and reformed; the connecting body may be retained for later use. These benefits are substantial and are not provided by the integrated “tip region” method of the Hu-Friedy model.

Conversely, the Hu-Friedy design offers its own benefits over the Dentsply patent. Unlike the patent claims, the method employed by Hu-Friedy does not require the production and attachment of two separate pieces, the “tip” and “connecting body,” and thus offers greater manufacturing efficiency. It also appears that the integrated connecting body of the Hu-Friedy design produces a generally consistent and steady rate of ultrasonic vibration between the “magnetostrictive element” and the “tip region.” This engenders greater functional regularity. These benefits are substantial.

The integrated “tip region” of the Hu-Friedy device and the separate “tip” of the Dentsply patent are not made in the same manner and do not function in the same way. See V-Formation, 401 F.3d at 1313; see also Graver Tank, 339 U.S. at 608-09. The Dentsply design represents a simpler method of production than the Hu-Friedy design and offers greater tolerance for manufacturing error. The Hu-Friedy design provides a more efficient method of production and offers increased regularity in function. While both designs share the same purpose, they differ significantly in manufacturing method and function. These differences are sufficiently substantial as to militate against a finding of “equivalence.” See Warner-Jenkinson, 520 U.S. at 33-36; Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1424-26 (Fed. Cir. 1997); see also Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 114 F.3d 1161, 1163-64 (Fed. Cir. 1997); Conopco, 46 F.3d at 1562.

The court finds that the Hu-Friedy products do not literally or equivalently infringe on the Dentsply patent. Accordingly, judgement will be entered in favor of Hu-Friedy.

III. Conclusions of Law

1. Plaintiff has failed to prove by a preponderance of the evidence the elements necessary to succeed on a claim of patent infringement.

2. Plaintiff has failed to prove by a preponderance of the evidence that the products manufactured by defendant literally infringe on United States Patent No. 6,494,714.

3. Plaintiff has failed to prove by a preponderance of the evidence that the products manufactured by defendant equivalently infringe on United States Patent No. 6,494,714.

4. Judgment should be entered against plaintiff and in favor of defendant.

An appropriate order will issue.

S/ Christopher C. Conner
CHRISTOPHER C. CONNER
United States District Judge

Dated: August 2, 2005

**IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA**

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| DENTSPLY INTERNATIONAL INC. | : | CIVIL ACTION NO. 1:04-CV-0348 |
| and DENTSPLY RESEARCH & | : | |
| DEVELOPMENT CORP., | : | (Judge Conner) |
| | : | |
| Plaintiffs | : | |
| | : | |
| v. | : | |
| | : | |
| HU-FRIEDY MFG. CO., INC., | : | |
| | : | |
| Defendant | : | |

ORDER

AND NOW, this 2nd day of August, 2005, upon consideration of the amended complaint (Doc. 92), and following a bench trial, and for the reasons set forth in the accompanying memorandum, it is hereby ORDERED that the Clerk of Court is directed to enter JUDGMENT in favor of defendant and against plaintiff and to CLOSE the above-captioned case.

S/ Christopher C. Conner
CHRISTOPHER C. CONNER
United States District Judge